

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number
WO 2004/028142 A3

(51) International Patent Classification⁷: H04N 7/26

(21) International Application Number:
PCT/YU2003/000027

(22) International Filing Date:
5 September 2003 (05.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
p-696/02 17 September 2002 (17.09.2002) YU

(71) Applicants and

(72) Inventors: CEPERKOVIC, Vladimir [YU/YU]; Zelena gora 27/3, yu-36000 Kraljevo (YU). PAVLOVIC, Sasa [YU/YU]; Kursulina 5, yu-11000 Beograd (YU). MIRKOVIC, Dusan [YU/YU]; 27 Marta 2, yu-11000 Beograd (YU).

(74) Agent: NIKOLIC, Jasna; Cingrijina 20, YU-11000 Beograd (YU).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Declarations under Rule 4.17:

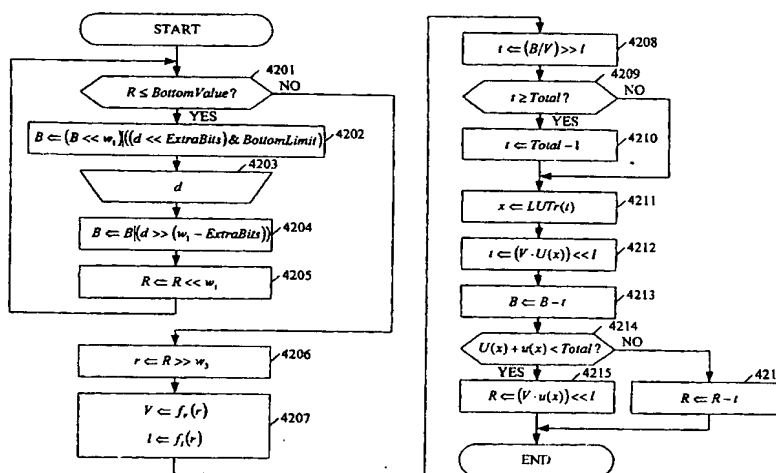
- as to the identity of the inventor (Rule 4.17(i)) for all designations
- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report

[Continued on next page]

(54) Title: FAST CODEC WITH HIGH COMPRESSION RATIO AND MINIMUM REQUIRED RESOURCES



(57) **Abstract:** This invention provides a novel single-pass and multi-pass synchronized encoder and decoder, performing order(s) of magnitude faster data compression and decompression, at any compression ratio with the higher or the same perceived and measured decompressed image quality in comparison with the best state-of-the-art compression methods, using order(s) of magnitude less system resources (processor complexity, memory size, consumed power, bus bandwidth, data latency). These features are achieved using novel direct and inverse non-stationary filters for the recursive octave direct and inverse subband transformation, novel simple context modeling and symbol probability estimation using a minimum number of histograms with the fast adaptation for the sign and the magnitude of the transformation coefficients, a novel accelerated range coder without division operations, and a novel synchronisation of the compressed data.